

INFRARED THERMOMETER INSTRUCTION MANUAL



1. Specifications

Temperature	Infrared Thermometer
Accuracy Resolution	$\pm 2\%$ or 2°C 0.1°C (0.1°F)
Response Time	$\leq 0.8\text{s}$
Emissivity	Adjustable (0.1 to 1.0)
Distance to Spot Ratio	12:1
Storage Temperature	-20 to 50°C (-4~122°F)
Operating Temperature	0 to 50°C (32~122°F)
Power / Power Life	9V / about 12 hours

Warning

Do not point laser directly or indirectly (through reflective surfaces) at eye.

2. Operation

1), Turn on

Install the battery and press the measurement button, then the thermometer turns on and shows the temperature reading automatically.

2), LCD display

The LCD displays the signals of functions (as diagram 2 shows)

3), Measurement

Aim to target article with thermometer head and press the measurement button (trigger), and release the button (need to press the button for at least 0.8 second) to show current temperature reading, or press the button all the time for continuous testing with more temperature reading results

4), Turn off

The thermometer will turn off automatically after 15 seconds without any operation

3. Distance Spot Ratio

Farther the target, larger the test spot area, it means: As the distance from thermometer to the object increases, the spot size of measuring area becomes larger, (as Diagram 1) it is named as "D:S" (Distance Spot Ratio). The diameter of the target spot area is 3.0cm when you test from distance 36cm, and the thermometers will show the average temperature of target spot area with diameter 3.0cm.

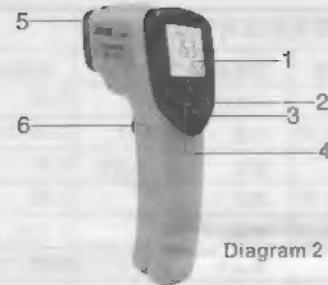


Diagram 1

4. Emissivity

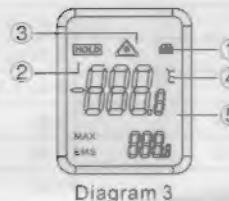
Most organic materials, painted or oxidized surfaces have an emissivity of 0.95 (pre-set in the unit). Inaccurate readings will result from measuring shiny or polished metal surfaces (for example, stainless steel or aluminium). To make better accuracy, cover the surface to be measured with masking tape or flat black paint. Measure the tape or painted surface when the tape or painted reach the same temperature of the material underneath.

Please kindly note: thermometer can not test the temperature of target objects through across the glass. And steam, dust, smog will lower the accuracy of testing.



5. Detailed function

- 1: LCD
- 2: laser button
- 3: function button
- 4: °C/°F
- 5: infrared lens
- 6: measure key



- 1: battery low power Indication
- 2: data hold
- 3: Laser signal
- 4: °C/°F
- 5: current temperature reading

Auxiliary function:

- 1), after power on: Press button 4, switch the °C and °F
- 2), after power on: Press button 2, test with laser.
- 3), after power on: Press the button 3 to get into the emissivity adjust, and then press button 2 or button 4 to adjust emissivity.
- 4), after power on: press and keep to hold button 6 and then at the same time press button 2 to turn on or turn off the backlight

6. Cautions

Infrared thermometer should be protected in the following:

- EMF (electro-magnetic fields) from arc welders, induction heaters.
- Thermal shock (caused by large or abrupt ambient temperature changes, it allows 30 minutes for unit to stabilize before use).
- Do not leave the unit on or near objects of high temperature.

7. Maintenance

1. Lens cleaning: Use the clean compressed air to blow off loose particles, use the soft brush to remove the debris away, at last clean it with wet cotton cloth.
2. Case cleaning: Clean the case with a damp sponge/cloth and mild soap.

NOTE:

1. Do not use solvent to clean lens.
2. Do not submerge the unit in water



Emissivity Of Articles					
Material	Feature	Emissivity	Material	Feature	Emissivity
Aluminium	Oxidized	0.3	Human skin		0.98
	Polished	0.02~0.04	Graphite	Oxidized	0.20~0.60
Brass	Oxidized	0.5	Plastic	non-transparent	0.95
	Polished	0.02~0.05	Rubber		0.95
Gold		0.01~0.10	Plastic cement		0.85~0.95
Iron	Oxidized	0.7	Concrete		0.95
Steel	Oxidized	0.70~0.90	Cement		0.96
Asbestos		0.95	Soil		0.90~0.98
Plaster		0.80~0.90	Moder		0.88~0.91
Asphalt		0.95	Brick		0.90~0.96
Rock		0.7	Marble		0.94
Wood		0.90~0.95	Textile		0.90
Charcoal	powdered	0.96	Paper		0.95
Carbon		0.85	Sand		0.90
Lacquerwork	lackluster	0.97	Clay		0.92~0.96
Carbon Cement		0.90	Sand		0.9
Soap Bubble		0.75~0.80	Glass		0.85~0.92
Water		0.93	Textile		0.95
Snow		0.83~0.90	Heated food		0.95
Ice		0.96~0.98	Plastic		0.95
Frozen Foods		0.95	Oil		0.94
Ceramics		0.95	Steel and iron		0.80
Limestone		0.98	Wool	Natural	0.94
Paint		0.93	Lead	Oxidized	0.5